UNITED
NATIONS

S

Security Council

Distr.
GENERAL

S/23295
17 December 1991

ORIGINAL: ENGLISH

NOTE BY THE SECRETARY-GENERAL

The Secretary-General has the honour to transmit to the Security Council, pursuant to paragraph 3 of Security Council resolution 699 (1991), the attached first semi-annual report on the implementation by the IAEA of the plan for the destruction, removal or rendering harmless of items listed in paragraph 12 of United Nations Security Council resolution 687 (1991).

Annex

Letter dated 5 December 1991 from the Director General of the International Atomic Energy Agency addressed to the Secretary-General

United Nations Security Council resolution 699 (1991) approved on 17 June 1991, requests, inter alia, the Secretary-General to submit to the Security Council progress reports on the implementation of the plan for the destruction, removal or rendering harmless of the items specified in paragraph 12 of resolution 687 (1991). Such reports are to be submitted every six months after the adoption of the resolution and the first report is therefore due on 17 December 1991.

Please find attached an outline of the activities carried out by the Agency during the past six months under the plan for the destruction, removal or rendering harmless, that you might find useful for the preparation of your report.

(Signed) Hans BLIX

Enclosure

First semi-annual report (covering the period 17 June - 17 December 1991) on the implementation by the IAEA of the plan for the destruction, removal or rendering harmless of items listed in paragraph 12 of UN Security Council resolution 687 (1991)

Introduction

Security Council resolution 699 of 17 June 1991 approved the plan submitted by the IAEA through the Secretary-General for the destruction, removal or rendering harmless of all items listed in paragraph 12 of Security Council resolution 687. Resolution 699 at the same time called for a report to be submitted every six months on progress in implementing the plan. This is the first such report.

At the time the plan was drawn up, the first on-site inspection under the terms of resolution 687 had just started. The objectives of that inspection were based on the declarations made by the Government of Iraq on 18 and 27 April 1991. The plan took into account the material and facilities known to exist at the time, but stressed that inspections would have to determine whether items additional to those declared by Iraq existed. As subsequent inspections have shown, the Iraqi nuclear program was far more extensive than what was indicated by the declarations of 18 and 27 April 1991 - and the full extent of the program may not even now be known. This report therefore covers not only the items known at the time of submission of the IAEA plan but also items revealed subsequently.

Throughout this period, Iraq's persistent practice of only limited acknowledgement of activities exposed through inspections, its concealment of evidence in such critical areas as uranium enrichment and nuclear weapons development, its denial of unrestricted access to certain sites, its detaining of the Agency's team on one occasion and its confiscating of documents from inspectors have made it rather difficult for the Agency to discharge its duties.

/...

Original Prime Concern

The original prime concern related to the nuclear material known to be in Iraq in a readily nuclear-weapons-usable form (in Agency practice, such material is referred to as "direct-use" material, "directly usable" meaning that no further enrichment or irradiation in a reactor is necessary). Of this material, the most important as regards ease of handling and hence use in weapons production consisted of the stocks of fresh (unirradiated) fuel for the IRT 5000 reactor. These consisted of 68 fuel assemblies of 80% enrichment with a U235 content of 10.97 kilograms and 10 assemblies of 36% enrichment with a U235 content of 1.27 kilograms. In addition, there was a set of fresh fuel plates for the Tamuz-2 reactor (French MTR type) with an enrichment of 93% and a total U235 content of 372 grams.

Other highly enriched material containing a total of 35.58 kg of U235 had been irradiated and so, owing to its radioactivity, could not be readily utilized in weapons production. Nevertheless, the degree of enrichment, up to 93%, meant that this material also had to be considered of high strategic value. The first IAEA inspection team found that the irradiated material was held at two storage locations. One was the fuel pond, which contained both the reactor core and fuel storage racks (and near which was a small subsidiary storage pool); the other was an emergency storage to which the fuel from the Tamuz-2 reactor core and associated pond had been transferred during the bombing campaign. This emergency storage, designated "location B", consisted of pits in a farmland area a few miles from the Tuwaitha Nuclear Centre.

Present Situation

Direct-Use Material

All the fresh fuel for the IRT 5000 reactor, both 80% and 36% enriched, was removed from Iraq on 15 and 17 November 1991. Removal of the strategically most significant material marks

an important stage in the implementation of the IAEA plan. 400 grams of unirradiated high-enriched uranium now remains in Iraq. This will be removed soon if current contract negotiations are successful.

The irradiated fuel presented severe problems regarding preparation for safe transport. The fuel at location B is stored under conditions which would be completely unacceptable by normal standards. Radiation levels are high and owing to the lack of water treatment and suitable containing material, corrosion problems cannot be avoided. The pond at the IRT 5000 reactor site was filled with debris when the reactor was destroyed. Careful work was necessary in order to clear the pond and improve conditions sufficiently to verify the fuel without creating an area contamination hazard. This has now been done and plans to prepare the fuel for lifting and transport are being worked out. All fuel elements in location B are presently under the Agency seals.

Initially, no fuel handling organization was willing to enter into a contract for removal of the fuel from Iraq. Later, a consortium of leading transport and reprocessing organizations from two States expressed a willingness to enter into a commercial arrangement, and contract negotiations have been under way for several months. It is hoped that these will be completed shortly.The financial sums involved are large and many legal and safety problems are having to be solved before the parties can conclude a contract. During this period the fuel has been regularly inspected by the IAEA inspection teams.

Plutonium

A total of 6 grams of clandestinely produced plutonium was eventually declared by Iraq. This material was removed from Iraq during the 5th IAEA inspection.

Other Nuclear Material

Since the declarations of 18 and 27 April inspections have resulted in some 400 tons of additional material being declared by Iraq - natural uranium in many forms, ranging from yellowcake to processed chemicals. Although not directly weapons-usable material, it falls within the scope of Security Council resolution 707. Much of the material had been concealed by dispersion or burial in desert areas. As a result, it took time to recover and assemble all this material at a site where identification and verification could take place. The technical activities involved in verifying the material have now been completed and the material is under seal.

Equipment

The IAEA plan stated that priority would be given to the identification of research, development, support and manufacturing facilities and materials relevant or connected to irradiated fuel reprocessing and isotopic enrichment. The extent of the facilities and equipment revealed has been reported after each inspection and will therefore only be summarized here. The major discovery has been that of the Electromagnetic Isotope Separation (EMIS) program and its extent. A major concealment effort was made by Iraq to hide the existence of its program from inspectors, equipment being dispersed and in many cases buried in remote areas. As far as can be established in these circumstances, the EMIS equipment has now been largely accounted for. The remaining parts have been collected at one site and destruction has been proceeding steadily during recent inspections. Destruction involves cutting the magnet pole pieces (with special plasma torches), the vacuum chambers and associated equipment. A total of eight large magnet poles have been destroyed to date and all the vacuum chambers.

In addition to the EMIS program, a centrifuge program was under way. The equipment for this has also been systematically destroyed or removed. In particular, some rotor and bearing parts have been removed for examination, to establish the extent and nature of the program, while most of the centrifuge components have been crushed. Special machines used to produce the centrifuges have been destroyed or rendered useless by the cutting of key parts.

Weaponization

Recent inspections have concentrated on the nuclear weaponization program - i.e. warhead development and assembly as distinct from nuclear material production. The seventh and eighth inspections revealed special equipment essential to such a program. Two special video cameras ("streak cameras") have been removed from Iraq and other equipment has been sealed pending decision on removal, destruction or monitoring.

Hot Cells

The Tuwaitha Nuclear Centre was extensively equipped with "hot cells" for dealing with radioactive material. Many of these were severely damaged in the bombing, but concern remained about their possible reconstruction and about the possible use of the undamaged cells. During the seventh inspection, these cells were rendered harmless by the cutting of manipulator arms and control wires. Associated glove boxes were rendered useless by having cement poured into them. As a long-term measure, epoxy resin is being used in addition to cement to render harmless the mixers-settlers.

Buildings

To date no buildings have been destroyed by inspection teams. Most buildings used in the clandestine programs were destroyed by bombing. The Iraqi authorities themselves have expressed a desire to demolish many buildings at Tuwaitha so that the sites may be re-used for non-prohibited nuclear activities or for non-nuclear activities. The sites of Buildings B50, B80 and B85, which were destroyed by bombing, have already been completely cleared.

Future Activities

The removal from Iraq of the remaining 35 kilograms of U235 contained in the irradiated fuel elements of the Tamuz-2 and IRT 5000 research reactors is one of the major tasks still pending. Negotiations with contractors are in progress, and preliminary work to facilitate the extraction of the fuel elements from the damaged reactor building is terminated.

Destruction of the EMIS components will be completed; other key equipment relevant to nuclear weapons development research and to centrifuge manufacturing which is now under Agency seals will be rendered useless or removed.

It is expected that the analysis of samples taken at Al Atheer will indicate which equipment/building still need to be destroyed.

Vienna, 5 December 1991

Summary

The present situation regarding destruction, removal or rendering harmless can be summarized as follows:-

Directly usable material (**H**igh **E**nriched **U**ranium)

68 fuel assemblies 80% enriched - removed

10 fuel assemblies 36% enriched - removed

(Remaining - 372 grams of U235 in 93%-enriched uranium contained in MTR-type fuel plates)

Plutonium

6 grams - removed

Natural uranium

Approximately 400 tons - stored under IAEA seal

EMIS equipment

Magnet poles - 8 destroyed

Vacuum chambers - all destroyed

Coils - all destroyed

Centrifuge equipment

Centrifuges - destroyed (some specimens removed to IAEA)

Manufacturing equipment - key components destroyed

Hot Cells - rendered harmless